# Lead in Drinking Water FAQ

This fact sheet answers frequently asked questions about lead and health, how lead gets into your drinking water, and what you can do to protect yourself and your family from lead exposure. Lead can be found in all parts of the environment. Although it is naturally occurring, most exposure comes from human activities. Young children, infants, and pregnant women are most vulnerable to the effects of lead and precautions should be taken to minimize their lead exposure.

## How does lead get in my drinking water?

In Massachusetts, most drinking water sources like reservoirs and groundwater are lead free. When lead is present in water, it is typically due to the water flowing through lead pipes or plumbing in homes with lead parts or solder. Service lines, which are the pipes that connect your home to the water main, could have lead in them. Inside your home, you may have lead pipes, copper pipes connected with lead solder, or brass faucets or fittings containing lead. Lead levels are highest when the water has been sitting in lead pipes for several hours. Hot water causes lead to enter water faster.

## How does lead get into my body?

In many cases, most exposure to lead is from paint dust, paint chips, and soil contaminated with lead. Lead can also get into your body by drinking or cooking with water containing lead. Young children absorb lead more easily than adults, and lead can be passed from a mother to her unborn child. For these reasons, lead in drinking water can be an important source of exposure for pregnant women, young children, and infants that are fed powdered formula.

### Lead Exposure Quick Facts

**Overview:**

- Infants, young children, and pregnant women are especially vulnerable to the harmful effects of lead exposure.
- Most lead exposure results from lead paint dust and chips.
- Most public water sources are lead free in Massachusetts, but lead can be in your water due to lead pipes, solder, or old fixtures.

**What to do:**

- Talk with your child's doctor about testing your child for lead and about lead exposures.
- Learn if your home has lead paint or lead plumbing/fixtures.
- Use cold water for drinking and cooking.
- Call your local water department to learn about your home's service line and testing your water.

Lead is ***not*** absorbed through the skin. Bathing or showering in water containing lead should be safe.

Most children come into contact with lead by being exposed to the paint in old homes. When old paint that contains lead peels and cracks it creates lead dust and chips. Home renovation may also create significant amounts of lead dust and must be done with caution. Lead dust can be breathed in or get onto hands and toys. Lead intake often occurs when children put their hands and toys in their mouths.

It is Massachusetts law that children be tested for lead at ages 9-12months, 2, 3, and sometimes 4. Ask your doctor about testing your child for lead and discuss the risks of lead exposure.

## How does lead make you sick?

Lead can affect your organs including harming the brain, kidneys, and nervous system. The developing brains of infants and young children are at greatest risk. An exposure to lead that would have little effect on an adult can have a big effect on an infant or child. While there is no safe level of lead exposure, it is important to reduce lead exposures as much as possible particularly for infants, young children, and pregnant women.

### What is lead poisoning?

Lead poisoning is caused by too much lead in the body. Most children who have lead poisoning do not look or act sick. A lead test is the only way to know if your child has lead poisoning.

### What if I'm pregnant or planning to become pregnant?

Lead can pass from a mother to her unborn child. The most important risk factors for lead exposure in pregnant women are workplace exposures, recent immigration, a craving to eat or mouth nonfood substances that might be contaminated like soil or jewelry, a woman's nutritional status, her use of traditional home remedies or imported cosmetics, and the use of lead-glazed pottery for cooking or storing food. Dust from old lead-based paint can also be an important source of exposure for pregnant women during the renovation of older homes. Talk to your doctor to discuss the risks of lead exposure and whether you should be tested for lead.

## What can I do right now to protect my family?

### 1. Run your water before using and use cold water.

Always use **cold** water for drinking and cooking. **Do not** use hot water for cooking or baby formula. Hot water usually has higher lead levels than cold water.

Running the water before using will usually reduce lead levels by flushing out the water that has been sitting in lead pipes for several hours. However, the amount of flushing needed depends on whether or not you have a lead service line. Contact your local water department to find out if your service line contains lead. For more information about flushing your pipes and lead in service lines and household plumbing, visit http://www.mass.gov/eea/agencies/massdep/water/drinking/is-there-lead-in-my-tap-water.html.

Boiling water does not eliminate lead. If there is lead in your water, boiling it will increase lead levels.

You should also periodically unscrew the aerator from the end of the faucet and clean out debris. Sometimes small pieces of lead can collect here.

**Baby Formula Lead Reduction Tips**

When mixing powdered baby formula with tap water:

1. Use **COLD** water.
2. **DO NOT** use hot water for baby formula – boiling water does not eliminate lead.
3. Simply warm formula to serve.

### 2. Test your drinking water.

If you have lead in your service line or in pipes inside your home or if you aren't sure if you do, consider testing your water. This is the best way to find out if you have lead in your water. Testing typically costs between $20 and $40 and should be done by a certified laboratory. Water samples may be mailed or dropped off. Be sure to follow the lab's sample collection instructions exactly.

The Massachusetts Department of Environmental Protection (MassDEP) provides a list of certified laboratories, which can be found here: http://www.mass.gov/eea/agencies/massdep/water/drinking/certified-laboratories.html#1.

The EPA action level for lead in drinking water – or the level regulators look for water to not exceed – is 15 ppb (also reported as "15 µg/L", "0.015 ppm", or "0.015 mg/L"); the

goal, however, is to have the lowest possible level of lead in your drinking water, particularly where young children or pregnant women may be exposed.

Infants, children, and pregnant women are especially vulnerable to the effects of lead exposure. If you are a pregnant woman or have young children drinking water with lead levels exceeding EPA's action level of 15 ppb, the federal Centers for Disease Control and Prevention (CDC) recommends you use bottled water or water from a filtration system that has been certified by an independent testing organization to reduce or eliminate lead for cooking, drinking, and baby formula preparation. For more information about CDC's recommendation, visit: http://www.cdc.gov/nceh/lead/tips/water.htm. If you have, or suspect you may have, a lead service line to your home, you should have your tap water tested for lead and use bottled water or water from an appropriate filter that removes lead for pregnant women, infants, and children.

### 3. Consider using a filter to reduce the level of lead in your drinking water.

Not all filters will reduce lead and filters can be expensive, requiring regular maintenance to remain effective. A useful source of information on filtering drinking water to remove lead and on specific water filter products is NSF International http://www.nsf.org/.

## What else can I do to protect my family?

### Test your home for lead.

Most children are poisoned from the lead paint and dust in their homes. Hire a lead inspector to test your home to find out if there are lead hazards. For a list of licensed lead inspectors go to http://www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/exposure-topics/lead/delead/.

If you are a tenant, contact your local health department or the DPH Childhood Lead Poisoning Prevention Program (1-800-532-9571) to have your dwelling inspected.

### Test your child for lead.

***A blood test is the only way to tell if your child has lead poisoning*.** In Massachusetts, children must be tested at ages 9-12 months, 2, 3, and sometimes 4 depending on where they live. Talk to your doctor about your children's lead test results and discuss the risks of lead exposure. If your child is not up to date on their testing, or you have specific concerns about

your child's health or exposure to lead, ask your doctor to test your child for lead. A blood test taken from the child's vein is more accurate than a sample taken from the child's finger.

### Replace lead pipes and plumbing containing lead.

If you own your home, it is advised that you consider replacing any leaded water pipes, service lines, or fixtures, especially if there are children or women of childbearing age present. Contact your local water department about service line replacement and financial incentive and assistance programs that might be available.

If you are replacing water pipes or fixtures inside the home, be sure to check the label and use only zero-lead or low-lead materials. Before doing any home renovations, learn how to renovate your home safely at: http://www.mass.gov/eohhs/docs/dph/environmental/lead/renovate-safely-2015.pdf.

## Where can I get more information?

MassDEP Drinking Water Program at 617-292-5770, Program.Director-DWP@state.ma.us, or http://www.mass.gov/eea/agencies/massdep/water/drinking/is-there-lead-in-my-tap-water.html

Childhood Lead Poisoning Prevention Program at 1-800-532-9571 or www.mass.gov/dph/clppp

DPH Bureau of Environmental Health at 617-624-5757 for health-related questions on lead in drinking water.

List of state-certified laboratories for drinking water testing at (http://www.mass.gov/eea/agencies/massdep/water/drinking/certified-laboratories.html#1 - click on Find MassDEP-Certified Laboratories)

NSF International, a nonprofit organization that certifies bottled water and water filters at http://www.nsf.org/

List of licensed lead inspectors at http://www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/exposure-topics/lead/delead/

Renovate Your Home Safely fact sheet at http://www.mass.gov/eohhs/docs/dph/environmental/lead/renovate-safely-2015.pdf